

Histopathology findings in patients presenting with menorrhagia: A study of 100 hysterectomy specimen

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ABSTRACT

Background: Menorrhagia, by definition, is heavy cyclical blood loss in excess of 80 ml/month of menstrual period lasting longer than 7 days. There are many possible causes of heavy menstrual bleeding which include hormonal imbalance, fibroids, miscarriage or ectopic pregnancy, nonhormonal intrauterine device, adenomyosis, pelvic inflammatory disease, and rarely uterine, ovarian, or cervical cancer. Treatment depends on the causes of the menorrhagia. Hysterectomy is one of the several surgical procedures as definitive treatment.

Objective: To determine the histopathologic spectrum of lesions associated with menorrhagia in different age groups.

Study Design: This prospective descriptive study was conducted at the Department of Pathology, People's College of Medical Sciences and Research Centre, Bhopal. During the study period, 100 hysterectomy specimens were taken which were performed for the treatment of menorrhagia. Patients with menorrhagia in the age group of 30-50 years were selected after detailed history and fulfilling the inclusion criteria.

Result: In our study, it was observed that maximum number of cases were in the age group of 41-50 years ($n = 35$) followed by the age group of 31-40 ($n = 30$). Out of 100 cases, 31% cases ($n = 31$) showed adenomyosis followed by leiomyomas 25% ($n = 25$), endometrial hyperplasia 23% ($n = 23$), and endometrial polyp 4% ($n = 4$). 11% cases ($n = 11$) showed dual pathology consisting of both adenomyosis and endometrial hyperplasia and 6% cases ($n = 6$) of leiomyoma with adenomyosis.

Conclusion: Uterine adenomyosis and leiomyoma are the most common benign conditions found in hysterectomy specimens with peak incidence at 31-50 years. Patients having menorrhagia above 40 years should be screened for any endometrial pathology. Histopathology is mandatory for confirming diagnosis and the key to effective therapy and optimal outcome.

Key Words: Histopathology, hysterectomy, menorrhagia

INTRODUCTION

Endometrium is a hormonally sensitive and responsive tissue which constantly undergoes changes in the active

reproductive life. The normal menstrual cycle has a mean interval of 28 ± 7 days with a mean duration of 4 ± 3 days and the amount of blood loss average 30 ml/cycle, but may be as high as 80 ml.^[1] Menorrhagia refers to excessive or prolonged menstrual bleeding occurring at regular intervals. It is objectively defined as blood loss >80 ml/or

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menstrual period lasting longer than 7 days.^[2] The causes of menorrhagia may be local, systemic, and dysfunctional. Population studies have shown that approximately 10% women have menstrual blood loss >80 ml cycle.^[3] The most common cause of menorrhagia in postadolescent women is distortion of endometrial architecture from a submucous leiomyoma, endometrial polyp, or adenomyosis. Systemic disorders such as hypothyroidism, liver disease, cirrhosis, chronic renal disease, chronic endometritis, and usage of intrauterine devices are also associated with menorrhagia.^[4] An endometrial biopsy should be performed on all women over 35 years with menorrhagia to rule out endometrial cancer or premalignant lesion (e.g. atypical hyperplasia).^[5] Thus, menorrhagia is an important healthcare problem. It is only after failed trial of appropriate treatment, especially hormonal that hysterectomies are considered, more so in the age group beyond 35 years.^[6,7]

Our study aimed at determining the types and frequencies of endometrial pathologies in patients presenting with abnormal uterine bleeding (AUB) at our hospital.

MATERIALS AND METHODS

The present study was conducted in the Department of Pathology of People's College of Medical Sciences and Research centre, Bhopal, India, over a period of 1½ years.

A total of 100 hysterectomy specimens with or without salpingo-oophorectomy were subjected to examination. Patients' brief clinical data were retrieved with respect to age, parity, clinical manifestation, sonographic findings, and basis of diagnosis. Inclusion criteria were patients coming to the outpatient department with complaint of menorrhagia for which hysterectomy procedure was performed. An exclusion criterion was hysterectomies done for complaints other than menorrhagia and malignancies.

On receipt of surgical specimen, they were fixed in 10% neutral buffered formalin for 24-48 h. A detailed gross examination of uterus, cervix with or without bilateral adnexa was carried out. Sections from representative areas were taken, processed, and paraffin embedded. The blocks were sectioned and stained with hematoxylin and eosin. A detailed microscopic examination of the stained slides was carried out.

All findings were cumulatively considered and included for appropriate diagnosis.

Subsequently, the histopathological diagnoses were correlated with clinical diagnoses.

RESULTS

A total of 100 abdominal hysterectomy cases were included in the study. The age range of patients was from 30 to 50 years. Of which, 65 (65%) patients were of abdominal hysterectomy with bilateral salpingo-oophorectomy specimens and remaining 35 (35%) patients were of only hysterectomy specimens [Table 1].

In our study, it was observed that maximum number of cases were in the age group of 41-50 years ($n = 35$) followed by the age group of 31-40 ($n = 30$) years. Out of 100 cases, 31% cases ($n = 31$) showed adenomyosis followed by leiomyomas 25% ($n = 25$), endometrial hyperplasia 23% ($n = 23$), and endometrial polyp 4% ($n = 4$). 11% cases ($n = 11$) showed dual pathology consisting of both adenomyosis with endometrial hyperplasia and 6% cases ($n = 6$) showed leiomyoma with adenomyosis [Tables 2 and 3, Figures 1 and 2].

DISCUSSION

Menorrhagia is primarily a subjective complaint perceived by women as heaviness of their period.^[8] Dysfunctional uterine bleeding (DUB) is one of the most common presentations by patients in gynecology outpatient department, accounts for up to 80% cases of menorrhagia.^[9] Hysterectomy is the most common and successful procedure carried out in terms of symptom relief, patient satisfaction, and definitive

Table 1: Type of hysterectomy

Type of hysterectomy	<i>n</i>	Percentage
Abdominal hysterectomy with bilateral salpingo-oophorectomy specimens	65	65
Only hysterectomy specimens	35	35
Total	100	100

Table 2: Age wise distribution of patients with menorrhagia

Age in years	<i>n</i>	Percentage
21-30	14	14
31-40	30	30
41-50	41	41
51-60	15	15
Total	100	100

Table 3: Frequency of histological pattern in menorrhagia

Histopathologic diagnosis	<i>n</i>	Percentage
Adenomyosis	31	31
Leiomyoma	25	25
Endometrial hyperplasia	23	23
Endometrial polyp	4	4
Adenomyosis and endometrial hyperplasia	11	11
Leiomyoma with adenomyosis	6	6

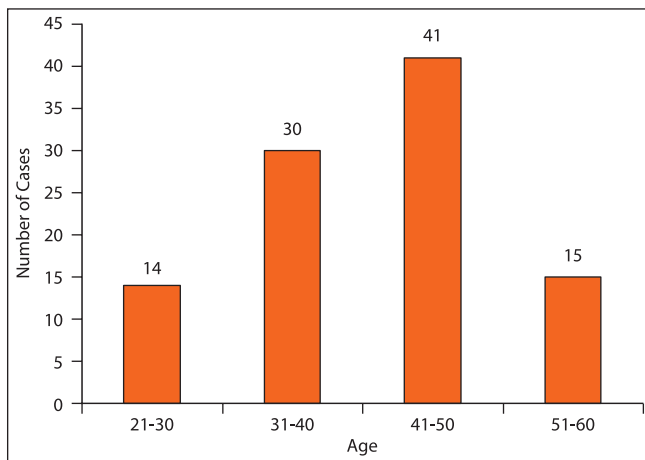


Figure 1: Age wise distribution of patients with menorrhagia

cure in many diseases.

In our study, most of the patients with menorrhagia were in the age group of 41-51 years which was similar to the study by Mackenzie and study by Shaheen *et al.*, who reported that most of the patients with menorrhagia were above the age of 40 years.^[10,11]

In the present study, we had the maximum number of histopathologic diagnosis of adenomyosis (31%) followed by leiomyoma (25%) and 6% cases of leiomyoma with adenomyosis. In a similar study, Khreisat *et al.* reported that adenomyosis is a common finding in hysterectomy specimen. They found nearly 37% of all the specimens proved to be adenomyosis whereas the second most common finding was fibroid uterus.^[12] These findings were in accordance with our study.

Sajjad *et al.* in their study observed 39% cases of leiomyomas, followed by adenomyosis in 19% cases. 5% cases showed dual pathology consisting of both leiomyomas and adenomyosis.^[13] Our study showed dual pathology consisting of both adenomyosis with endometrial hyperplasia (11%) and 6% cases of leiomyoma with adenomyosis.

Leiomyomas and adenomyosis were found to be the common causes of menorrhagia, in other studies by Sarfraz *et al.*, Tahira *et al.*, and Khawja *et al.*^[14-16]

Gupta *et al.* in their study observed that menorrhagia was the most common complaint and fibroid uterus was responsible for AUB in 53% of women.^[17]

Sajitha *et al.* and Patil *et al.* in their histopathological study of endometrium in AUB and DUB, observed that menorrhagia was the most common bleeding pattern in 47% and 73.16% cases, respectively. Common histopathologic diagnosis of endometrial hyperplasia was seen in most of the cases.

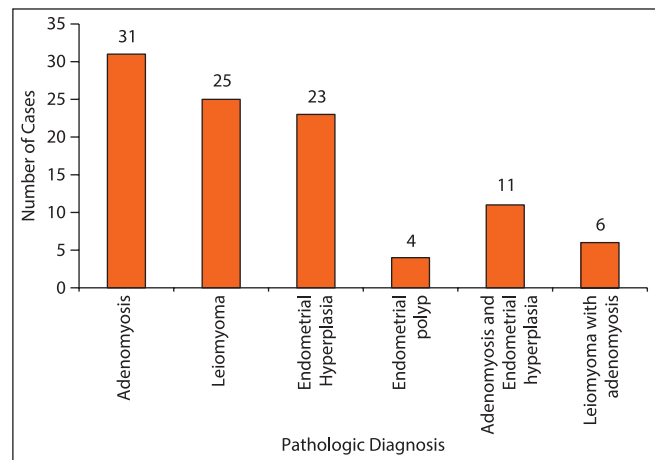


Figure 2: Frequency of histological pattern in menorrhagia

However, in these studies, organic lesions involving the genital tract infections, systemic causes, iatrogenic causes, polyps, and hysterectomy specimens were excluded.^[18,19]

Most international studies showed leiomyomas as the most common pathological lesion with a variable frequency. Its incidence is 25.8% in Abbah City of Saudi Arabia, 78% in the USA, 48% in Nigeria, and 8% in Sweden.^[20-23] Geographical and racial influences are thus apparent on the prevalence of uterine leiomyoma.

In our study, adenomyosis was found to be the most common pathology being the incidence of 31%.

While in most of the national and international studies, it is the next common diagnosis. Its incidence in an Indian study is 26%, in Italy 24.9%, and in West Indies 6%.^[24-26] Incidence of adenomyosis rises with rising parity which supports the theory of implantation of the basal endometrium deep in the myometrium.^[14]

Unopposed estrogen stimulation may lead to endometrial proliferation and hyperplasia, which may cause menorrhagia.^[8] In our study, other histopathologic findings in menorrhagia cases include cases of endometrial hyperplasia in 23% and endometrial polyp in 4% whereas Sajjad *et al.* reported endometrial polyps in 10%, 5% cases of endometrial hyperplasia, and 1% case of chronic endometritis in their study.^[13]

Leiomyoma and adenomyosis are the leading causes for menorrhagia while hysterectomy is widely used treatment modality for the treatment of menstrual problems.

CONCLUSION

Uterine adenomyosis and leiomyoma are the most common benign conditions found in hysterectomy specimens

with peak incidence at 41-50 years. Histopathology is mandatory for confirming diagnosis and ensuring optimal management.

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Conflicts of interest

There are no conflicts of interest.

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